

WHAT IS CLAIMED IS:

1. A hydrous kaolin pigment having a GE Brightness of at least about 90.0 and a steepness ($d_{30}/d_{70} \times 100$) of at least about 39.
2. A hydrous kaolin pigment of claim 1, wherein said GE Brightness is at least about 91.0.
3. A hydrous kaolin pigment of claim 2, wherein said GE Brightness is at least about 92.0.
4. A hydrous kaolin pigment of claim 3, wherein said GE Brightness is at least about 93.5.
5. A hydrous kaolin pigment of claim 4, wherein said GE Brightness is at least about 94.0.
6. A hydrous kaolin pigment of claim 1, wherein said steepness ranges from about 39 to about 45.
7. A hydrous kaolin pigment of claim 6, wherein said steepness ranges from about 41 to about 45.
8. A hydrous kaolin pigment of claim 1, having a particle size distribution such that about 80% to about 94% by weight are less than 2 μm .
9. A hydrous kaolin pigment of claim 8, wherein said particle size distribution is such that about 85% to about 92% by weight are less than 2 μm .
10. A hydrous kaolin pigment of claim 9, wherein said particle size distribution is such that about 85% to about 90% by weight are less than 2 μm .
11. A hydrous kaolin pigment having a GE Brightness of at least about 91.5 and a titania concentration less than or equal to about 0.40% by weight of the pigment on a dry basis.
12. A hydrous kaolin pigment of claim 11, wherein said GE Brightness is at least about 92.0, and said titania concentration is less than or equal to about 0.35%.
13. A hydrous kaolin pigment of claim 12, wherein said titania concentration is less than or equal to about 0.30%.

14. A hydrous kaolin pigment of claim 13, wherein said titania concentration is less than or equal to about 0.20%.

15. A hydrous kaolin pigment of claim 11, wherein said GE Brightness is at least about 93.0, and said titania concentration is less than or equal to about 0.15%.

16. A hydrous kaolin pigment of claim 11, having a particle size distribution such that about 80% to 94% by weight are less than 2 μm .

17. A hydrous kaolin pigment of claim 16, having a particle size distribution such that about 2% to about 15% by weight are less than 0.25 μm .

18. A hydrous kaolin pigment of claim 16, wherein said particle size distribution is such that about 85% to about 92% by weight are less than 2 μm .

19. A hydrous kaolin pigment of claim 18, wherein said particle size distribution is such that about 2% to about 10% by weight are less than 0.25 μm .

20. A hydrous kaolin pigment of claim 18, wherein said particle size distribution is such that about 85% to about 90% by weight are less than 2 μm .

21. A hydrous kaolin pigment of claim 18, wherein said particle size distribution is such that about 2% to about 8% is less than 0.25 μm .

22. A hydrous kaolin pigment having a GE Brightness of at least about 92.0.

23. A hydrous kaolin pigment of claim 22, having a GE Brightness of at least about 93.0.

24. A paper coating or filler composition comprising a hydrous kaolin pigment of claim 1 and a coating base.

25. A paper coating or filler composition comprising a hydrous kaolin pigment of claim 7 and a coating base.

26. A paper coating or filler composition comprising a hydrous kaolin pigment of claim 11 and a coating base.

27. A paper coating or filler composition comprising a hydrous kaolin pigment of claim 22 and a coating base.

28. A hydrous kaolin pigment produced by a process comprising:

- (a) forming an aqueous suspension of a hydrous kaolin clay;
- (b) forming a primary product by subjecting the suspension to classification or a combination of classification and grinding;
- (c) separating the kaolin from impurities by selective flocculation; and
- (d) defining the separated kaolin,

wherein the product of the process is a hydrous kaolin pigment having a GE Brightness of at least about 90.0 and a steepness ($d_{30}/d_{70} \times 100$) of at least about 39.

29. A hydrous kaolin pigment produced by a process comprising:

- (a) forming an aqueous suspension of a hydrous kaolin clay;
- (b) forming a primary product by subjecting the suspension to classification or a combination of classification and grinding;
- (c) separating the kaolin from impurities by selective flocculation; and
- (d) defining the separated kaolin,

wherein the product of the process is a hydrous kaolin pigment having a GE Brightness of at least about 91.5 and a titania concentration of less than or equal to about 0.40% by weight of the pigment on a dry basis.

30. A hydrous kaolin pigment produced by a process comprising:

- (a) forming an aqueous suspension of a hydrous kaolin clay;
- (b) forming a primary product by subjecting the suspension to classification or a combination of classification and grinding;
- (c) separating the kaolin from impurities by selective flocculation; and
- (d) defining the separated kaolin,

wherein the product of the process is a hydrous kaolin pigment having a GE Brightness of at least about 93.5.

31. The product of the process of any one of claims 28, 29, or 30, wherein said separating step includes the steps of flocculating the kaolin away from dispersed impurities and redispersing the flocculated kaolin.

32. The product of the process of claim 31, wherein said redispersion involves reaction with an oxidant, mechanical shear, or both.

33. The product of the process of any one of claims 28, 29, or 30, wherein said primary product is subjected to at least one additional beneficiation procedure prior to selective flocculation.

34. The product of the process of claim 33, wherein said at least one additional beneficiation procedure is degritting, magnetic separation, flotation, classification, grinding, reductive bleaching, or a combination thereof.

35. The product of the process of any one of claims 32, wherein said oxidant referred to in (e) is selected from hydrogen peroxide or ozone.

36. The product of the process of claim 35, wherein said oxidant is ozone.

37. A cellulose based substrate coated or filled with a composition comprising a pigment according to any one of claims 1, 11, or 22.

38. A coated or filled cellulose based substrate according to claim 37, wherein said substrate is paper.

39. A coated or filled cellulose based substrate according to claim 38, wherein said paper is light weight coating basepaper.